

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/00829

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : Please See Extra Sheet.

US CL : Please See Extra Sheet.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/5, 6, 69.7, 172.3, 252.33, 320.1; 514/2; 530/300, 350, 358; 536/23.4, 23.5, 24.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US, A, 5,198,346 [LADNER ET AL] 30 March 1993, columns 1-3, 12-228 and 247-252 and Figures 3-16.	1, 3-5, 7, 9, 11-13, 19, 20, 26, 28, 29, 32, 33, 35-39, 40, 42, 43, 45, 51, 52, and 55-58 2, 6, 8, 10, 14, 15-18, 21-25, 27, 30, 31, 39, 41, 44, 46-50 and 53

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	* "I" later document published after the international filing date or priority date and not in conflict with the application but cited to undermine the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier documents published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

17 MAY 1995

Date of mailing of the international search report

25 MAY 1995

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

William W. Moore

Telephone No. (703) 308-0196

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/00829

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	Science, Volume 250, issued 30 November 1990, F.J. Rauscher et al, "Binding of the Wilms' Tumor Locus Zinc Finger Protein to the EGR-1 Consensus Sequence", pages 1259-1262, see entire article.	2, 8, 17, 22, 31, 41, 46-49, 53
Y	Science, Volume 248, issued 04 May 1990, J.J. Wright et al, "Expression of a Zinc Finger Gene in HTLV-I- and HTLV-II-Transformed Cells", pages 588-591, see entire article.	14
Y	Molecular and Cellular Biology, Volume 13, Number 8, issued August 1993, M.B. Rollins et al, "Role of TFIIIA Zinc Fingers In Vivo: Analysis of Single-Finger Function in Developing Xenopus Embryos", pages 4776-4783, especially pages 4777-4783.	6, 30 and 44
Y	US, A, 4,990,607 [KATAGIRI ET AL] 05 February 1991, columns 1-5.	18 and 34
Y	The EMBO Journal, Volume 11, Number 12, issued December 1992, G.H. Jacobs, "Determination of the base recognition positions of zinc fingers from sequence analysis", pages 4507-4517, especially pages 4508 and 4515 and Figure 1a.	7
Y	Proceedings of the National Academy of Sciences, U.S.A., Volume 90, issued July 1993, M. Yu et al, "A hairpin ribozyme inhibits expression of diverse strains of human immunodeficiency virus type 1", pages 6340-6344, especially page 6343, left column.	15 and 16
Y, P	US, A, 5,302,519 [BLACKWOOD ET AL] issued 12 April 1994, see columns 9-42, especially col. 42, lines 44-56.	10, 21-25, 33, 39, and 46-50
Y	US, A, 5,243,041 [FERNANDEZ-POL] issued 07 September 1993, see columns 6-32 and Figures 5 and 9.	21-25 and 46-50
Y	Molecular Endocrinology, Volume 6, Number 7, issued July 1992, C.A. Quigley et al, "Complete Androgen Insensitivity Due to Deletion of Exon C of the Androgen Receptor Gene Highlights the Functional Importance of the Second Zinc Finger of the Androgen Receptor in Vivo", pages 1103-1112, especially pages 1104-1108.	24, 27
A	Biochemistry, Volume 30, Number 31, issued 1991, K. Agarwal et al, "Stimulation of Transcript Elongation Requires both the zinc Finger and RNA Polymerase II Binding Domains of Human TFIIIS", pages 7842-7851.	1-3, 5-10, 17-35 and 46-58

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/00829

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Nucleic Acids Research, Volume 18, Number 9, issued 11 May 1990, A. Bergqvist et al, "Loss of DNA-binding and new transcriptional trans-activation function in polyomavirus large T-antigen with mutation of zinc-finger motif", pages 2715-2720.	1-3, 5-11, 19-32, 35 and 46-58
A	Biochemistry, Volume 29, Number 34, issued 1990, T.L. South et al, "The Nucleocapsid Protein Isolated from HIV-1 Particles Binds Zinc and Forms Retroviral-Type Zinc Fingers", pages 7786-7789.	6, 15, 16 and 30
A	Genetics, Volume 129, Number 2, issued October 1991, P.R. DiBello et al, "The Drosophila Broad-Complex Encodes a Family of Related Proteins Containing Zinc Fingers", pages 385-397.	1-3, 5, 8, 9, 21-23, 25-29, 31, 32, 35, and 46-50
A	Proceedings of the National Academy of Sciences, U.S.A., Volume 89, issued May 1992, C.F. Barbas III et al, "Semisynthetic combinatorial antibody libraries: A chemical solution to the diversity problem", pages 4457-4461.	1-20 and 36-45
A	Nucleic Acids Research, Volume 19, Number 21, issued 1991, V.P. Antao et al, "A thermodynamic study of unusually stable RNA and DNA hairpins", pages 5901-5905.	1-20 and 36-45
A	Science, Volume 252, issued 10 May 1991, N.P. Pavletich et al, "Zinc Finger-DNA Recognition: Crystal Structure of a Zif268-DNA Complex at 2.1 Å", pages 809-817.	1-18 and 36-45
A	Science, Volume 261, issued 24 September 1993, N.P. Pavletich et al, "Crystal Structure of a Five-Finger GLI-DNA Complex: New Perspectives on Zinc Fingers", pages 1701-1707.	1-18 and 36-45
A	Nature, Volume 366, issued 02 December 1993, L. Fairall et al, "The crystal structure of a two zinc-finger peptide reveals an extension to the rules for zinc-finger/DNA recognition", pages 483-487.	1-18 and 36-45

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US95/00829

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (6):

C12N 15/01, 15/11, 15/12, 15/33, 15/62, 15/70; C07K 14/00, 14/005, 14/435, 19/00; A61K 38/16, 38/17; C12Q
1/02, 1/68, 1/70

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

435/5, 6, 69.7, 172.3, 252.33, 320.1; 514/2; 530/300, 350, 358; 536/23.4, 23.5, 24.1

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS, Derwent World Patent Index, Derwent Biotechnology Abstracts, U.S. issued Patent amino acid sequences, U.S.
issued Patent nucleotide sequences; Current Biotechnology Abstracts, Medline, Biosis Previews, Chemical Abstracts,
STN Registry File, Swiss Prot 31, A-GenSeq 18, PIR 43, N-GenSeq 18, UEMBL 39-84, and GenBank 84